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ABSTRACT

Doubts and misgivings have resulted from the rapid growth and diversity of experiential programs and the use of experiential learning assessment as a recruiting and marketing device. The Council for the Advancement of Experiential Learning (CAEL) is the body examining what is being done about setting standards for the assessment of experiential learning; this document represents CAEL's study approach to ascertain present practices, review the literature, filter the findings through author's experience with assessment, and develop principles that colleges and universities can use in establishing standards for assessing experiential learning. Experiential learning is divided into two major types: (1) sponsored--occurs under the auspices of a college or university and is planned or supervised such as a public service internship, cross-cultural experience, or career or occupational development and (2) nonsponsored--occurs before enrollment in a higher institution; includes such things as work (computer programming), life accomplishments (public speaking), or community service (chairing a charity campaign drive). (Author/CE)

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Setting Standards for Assessing Experiential Learning

Joan E. Knapp
Paul I. Jacobs

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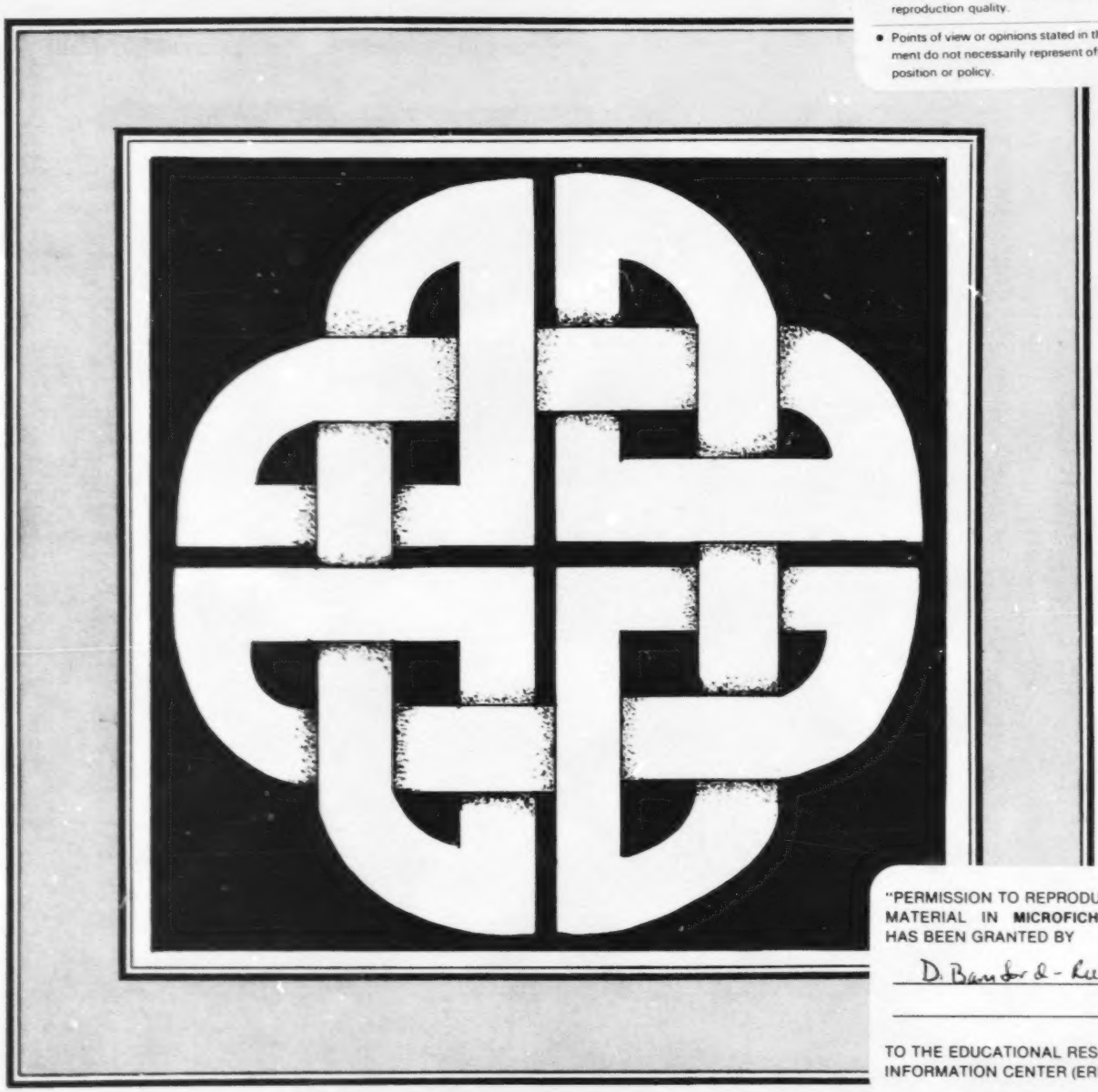

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The Council for the Advancement of Experiential Learning

For a college or university to grant educational credit for learning a person has gained outside the classroom--through work or other experiences--the school must first determine whether the learning is worthy of college credit.

How a school should go about setting the standards against which experiential learning is to be evaluated is the topic of this report. In it, the authors--

- discuss the results of a survey of present practices in setting standards among colleges and universities;
- set forth a framework for understanding standard setting;
- present principles that colleges and universities can use in establishing standards for assessing experiential learning.

This report provides a clear overview of standard setting for college and university officials who must assure that the standards used for assessing experiential learning are appropriate and fair.

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Council for the Advancement of Experiential Learning

SETTING STANDARDS FOR ASSESSING EXPERIENTIAL LEARNING

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PREFACE

Helping colleges and universities design and conduct sound experiential learning programs, based on sound assessment procedures, is the key mission of the Council for the Advancement of Experiential Learning (CAEL). In their traditional offerings, most institutions of higher education pledge a commitment to high quality. Given the concern for sound and equitable educational assessment, the higher education community must continue to develop and refine standards of acceptable performance and achievement for giving academic recognition for both classroom-based and experience-based learning.

A review of CAEL literature led me to the realization that few CAEL aids for the assessment of experiential learning directly address the task of setting standards. Because assessment and the setting of standards are parts of the process of educational measurement, CAEL joined forces with the ERIC Clearinghouse on Tests and Measurements to address the need for aids in standards development.

CAEL and the ERIC Clearinghouse, as co-sponsors of this study, asked Paul I. Jacobs, director of testing and assessment at Thomas A. Edison State College, and Joan Knapp, a program administrator at the College Board Division of the Educational Testing Service, to prepare this report. They were assisted by the staff of the ERIC Clearinghouse and its director, Barbara Wildemuth, and by CAEL members who participated in a survey of present practices. CAEL institutions were helpful and enthusiastic in their responses. We are grateful to John Fremer of the Educational Testing Service for his thoughtful review of the report; his suggestions and comments led to important revisions.

Morris Keeton
President
Council for the Advancement
of Experiential Learning

The Need for Increased Vigilance on Standards

Most educators would rush to assert that experiential learning--learning that takes place outside the classroom--has been part of higher education for a long time. Cooperative education, studio art, clinical internships, and field exercises, for example, are now deeply rooted and widely accepted. Most faculty members, when questioned, affirm that standards for judging learning outcomes from experience-based programs are as strong as those for formal college classes.

However, doubts and misgivings have resulted from the rapid growth and diversity of experiential programs and the use of experiential learning assessment as a recruiting and marketing device. (Although traditional experiential learning programs are equally diverse and more numerous and extensive, their longevity and acceptance as common practice have protected them from comparable skepticism.)

The first cooperative education program was formed about 1900. By 1955 there were about 65 programs. Also, the varieties of experiential learning opportunities have increased during the last two decades; service learning, noncollege learning, and prior learning are new terms in experiential education.

The Council for the Advancement of Experiential Learning (CAEL) is an excellent barometer of the times. CAEL started at the Educational Testing Service in 1974 as a research and development project guided by 12 institutions. Additional institutions wanted to participate in the project, and as a result of this heightened interest, CAEL became a chartered educational association in 1976. CAEL membership in 1981 includes approximately 300 institutions.

There has been a corresponding increase in the number of students taking advantage of these new opportunities. In 1969, approximately 20,000 students participated in cooperative education. Current estimates

point to a cooperative education enrollment of about 170,000, evidence of the boom in experiential learning described by Keeton and Tate (1978).

Along with this boom, there has been a decline in the enrollment of traditional-aged students in four-year programs at many colleges and universities. Some institutions have attempted to recruit more students with the enticement of experiential learning programs, which has caused some educators to question whether credentialing standards are eroding. Alarmists have asked whether credit for experience can lead to a Ph.D. in house painting. Even in traditional universities grade inflation has been present for a long time; degree inflation may be the derogatory term of the future.

These matters are of no small concern to accrediting bodies. The notion of credit for learning obtained outside a classroom setting through a college without physical boundary is startling to the monitors of academic quality. Accrediting bodies that have worked to formulate procedures and criteria for promoting sound education in traditional college settings are less than comfortable with the "new" programs and institutions.

Such concerns call attention to the need for colleges and universities to establish and maintain adequate standards for awarding credit for experiential learning. An important distinction must be made between assessment and setting standards for assessment. Assessment is the process by which experiential learning is identified, evaluated, and equated with an amount of college credit. Setting standards for assessment refers to the process of establishing the criteria against which experiential learning is to be evaluated to determine whether it is adequate, worthy of college credit.

This report seeks to address these concerns by examining what is <u>now</u> being done when standards for the assessment of experiential learning are set and what <u>should</u> be done in setting standards. The study approach was to conduct a mail survey of CAEL members to ascertain present practices, review the literature, filter the findings through authors' experience with assessment, and develop some principles that

colleges and universities can use in establishing standards for assessing experiential learning.

Throughout this report, readers must bear in mind that there are two major types of experiential learning: sponsored and nonsponsored. Sponsored experiential learning occurs under the auspices of a college or university where the learner is enrolled. The learning activity is part of the student's program of studies, planned and supervised by the faculty at the institution. Sponsored learning programs include:

Career Exploration. Supervised placement in business, government, a service organization, or a profession so that the student can become familiar with career possibilities and develop employment-related skills.

Career or Occupational Development. Placement, chosen by the student in consultation with an advisor, so that the student can advance job skills and gain experience related to a specific career.

Cooperative Education. Classroom experience integrated with practical work experience, when a minimum standard of successful performance on the job is a requirement for the institution's degree.

Professional Training. Service in assigned responsibilities under the supervision of a professional - for example, in education, medicine, law, social work, nursing, or the ministry - so that the student can apply theories and knowledge learned in the classroom.

Public Service Internship. Service in an appropriate institution for a specified period of time, usually from ten to fifteen weeks.

Social or Political Action. Placement, under faculty sponsorship, that provides an opportunity for students to work for change, through community organizing, political activity, research, or action projects.

Personal Growth and Development. A program in an off-campus setting that is designed to further personal growth and development, such as the wilderness survival programs.

Cross-Cultural Experience. Involvement in another culture or subculture in the United States or abroad.

Experiential learning that is not planned and supervised by a college or university or prescribed in a learner's program of studies is called nonsponsored learning. This learning occurs most often before enrollment. Such learning experiences might include: life accomplishments (e.g., public speaking), work (e.g., computer programming), hobbies (e.g., painting, writing, or photography), community service (e.g., chairing a charity campaign drive) and self-directed learning projects (e.g., learning a foreign language).

THE SURVEY OF CAEL MEMBERS

Polling CAEL member institutions was a direct approach to determining the current state of the art in standard setting. These colleges and universities assess experiential learning in their programs, and the conversion of learning to credits and the setting of standards was assumed to be part of these institutions' assessment procedures.

Through work in this area during the last eight years, the authors knew that institutions use three major procedures for awarding credit for experiential learning:

1. The student's competence is observed and compared to a predetermined standard.

   Data Processing Example: Through a mastery test, the student demonstrates (a) the ability to apply a programming language to the solution of problems in business and (b) a working knowledge of computer logic and flowcharting.

   Communications Example: The student can give an extemporaneous speech that is informative, interesting, and persuasive.

2. The student's competence is observed and compared with the competence of others.

   Data Processing Example: The student's test performance shows a level of knowledge about programming approximately the same as that shown by students earning C's in an introduction to digital programming course.

   Communications Example: The student can give an extemporaneous speech of the same quality as that of speeches by students at the end of a one-semester public speaking course.

3. The student's competence may or may not be observed but is inferred from the length and breadth of the student's experience.

Data Processing Example: The student has been involved with data processing long enough to have worked with unit record equipment and early computers. Her experience today includes the newest equipment and teleprocessing. The student has recently been promoted to head of data processing in a large public school system.

Communications Example: The student has been active in student government and has given many speeches to both large and small groups while campaigning for office. He has been invited to address the annual meeting of the National Student Government Association.

The last method is the least justifiable for awarding credit. Because academic recognition should be given for learning from experience, not for the experience itself, the survey was not expected to reveal many standard-setting procedures that equate experience per se with credit or other academic recognition. However, because in traditional higher education classroom learning is sometimes inferred from time spent and then converted to credit, the survey was expected to show a few spillover instances of the granting of credit for experience.

Method and Findings

The survey was conducted in 1979 to determine the extent of each of the three practices. Survey recipients were extremely cooperative; 65 percent responded. Those who could not answer the questionnaire forwarded it to a person at the institution who could. More than 25 percent of the respondents included attachments describing program procedures and policies.

In the survey, the institutional representative of each of 330 CAEL institutions was asked (1) to state which of the three methods--

comparison to a predetermined standard, comparison to the competence of others, or inference from the student's experience--is predominantly used at the institution, (2) to state which of the three methods are sometimes used as an alternative, and (3) to describe what additional methods, if any, are used. A summary of the survey responses is given in Figure 1.

The responses to the third question, regarding additional methods, revealed an important finding. In addition to the responses shown in Figure 1, other items that were cited by less than five percent of the respondents as methods of standard setting included student logs and essays, certificates and licenses, oral examinations, product assessment, job site observations, American Council on Education (ACE) credit recommendations, self-evaluation, and documented learning. These responses make clear that at several institutions standard-setting practices could not be distinguished from assessment modes (such as logs and portfolios).

Figure 1. Responses to the Survey of CAEL Member Institutions.

Question	Percentage of Returns
1. Dominant Method	
Comparison to a predetermined standard	42
Comparison to the competence of others	21
Inference from student's experience	37
2. Other Methods	
Comparison to a predetermined standard	33
Comparison to the competence of others	40
Inference from student's experience	27
3. Additional Methods	
Do not have or are still developing	8
Portfolio	7
Examinations	7
Interview	6
Competency statements	5
Supervisor's statement	5

Conclusions

The following generalizations about standard-setting practices can be made based on the respondents' comments and attachments.

1. A disappointingly high proportion of institutions award credit for experiential learning on the basis of experience rather than learning. For example, a handout for older students at a liberal arts college states:

> Some portfolios of prior learning reveal wide and rich experience but are quite limited in reflections; others show powerful reflective ability on scant experience. While neither of these would be awarded full credit (30 credits), they would probably receive a score in the 18-23 range.

The evaluator's guidelines at another institution state:

> The following guidelines roughly equate credit and practical on-the-job experiential learning: 18-24 months = 1 credit hour; 25-36 months = 2 credit hours; 37-60 months = 3 credit hours; 60 months or more = 4 credit hours.

2. The only standards or criteria reported by many institutions were those for determining whether the learning is college-level or creditable. No other criteria or standards were described for converting the learning to credit after the learning has passed this first screening. For example, a small liberal arts college's "Criteria for Creditable Learning" states:

> The College will award credit on the basis of the following factors:
>
> Learning: Credit for learning outcomes or competencies, not experience.
>
> Precedent: This college has given credit in this area.
>
> Non-Routine: Learning can be distinguished from what everyone gains through standard life experience, or that gained before college entry.

> Independent from Credits Previously Earned: Learning must not overlap with credits earned at other postsecondary institutions. Where learning is sequential, the student differentiates between levels of learning.
>
> Theoretical and Practical: Student should understand and articulate theory, history, principles and concepts of subject and be able to apply the knowledge in different situations.
>
> Applicable: Learning can be applied outside of specific situation in which it was acquired.
>
> Demonstrable: Relationship evident between learning and major educational goals.
>
> Verifiable: Learning can be demonstrated to an expert who then evaluates level and quality of that learning.

3. Some institutions rely excessively on expert judgment of faculty members and fail to develop a consensus about standards and what constitutes adequate evidence of learning. For example, a small liberal arts college stated in its survey response:

> We have not established guidelines for formal standards. At this stage we prefer to rely upon the carefully exercised judgment of experienced academics. . . . We keep in mind our institution's liberal arts identification and the standards we employed as classroom teachers and try to maintain comparable levels of expectation.
>
> If this sounds somewhat subjective, so be it. We have not yet found or conceived objective standards that we would prefer to the considered judgment of experienced professionals.

A state university stated in its survey response:

> We have no written guidelines for faculty assessment as such, but there is a definite procedure which the faculty members follow in making their assessments.
>
> A student generally requests credit for specific courses from the university's undergraduate catalog. If the student can document that he has substantially met the course requirements as presented in the course description in the catalog, then he is eligible to request credit for that course.

> If the professor basically agrees with the student's statement of competency, as supported by the documentation, then the request should be granted.

4. In general, assessment application procedures provided in institutions' assessment program literature clearly tell the student what he or she must do. Little is conveyed to the applicant, however, about the assessment process and what might be expected of the assessor. Here is a typical set of instructions from a portfolio preparation workbook:

> If you are requesting credit for more than one course, please note the following:
>
> 1. For each course, you will be required to provide a copy of the title page and a copy of the complete credit request list.
>
> 2. A separate narrative description index and documentation section must be provided for each course. Submit your completed portfolio to the Director of Assessment and Evaluation. From there it will go to the appropriate academic department for assessment.
>
> The faculty of each department have determined which courses are assessable and how they are to be assessed. The faculty members themselves do the assessment of your portfolio and decide on whether or not to award credit. You are notified of the results through the Director of Assessment and Evaluation Office, which also notifies the records department so that your credit can be recorded on your transcript. Credit will be recorded using the appropriate course prefix and number and will be labeled as assessment credit. No letter grades are assigned to assessed courses.

5. Nearly all the responding institutions use CLEP (the College Level Examination Program) as a method of awarding credit for nonsponsored learning. Indeed, some institutions assess experiential learning by only using procedures recommended by CLEP and faculty agreement as the bases for awarding credit.

6. Competency-based institutions or assessment programs have a sounder, more explicit basis for setting standards, which facilitates the conversion of experiential learning outcomes into academic recognition.

An assessment standard that relates a learning outcome to the content of a nutrition course states:

> Given a list of vitamins the student should be able to describe the chemical properties of, the lack of, the sources of, and the deficiency symptoms and diseases of the vitamins known to man.

7. Without exception, standard setting for sponsored experiential learning is on firmer ground than standard setting for nonsponsored learning, primarily because the learning outcomes, objectives, and competencies for sponsored experiential learning are often explicitly stated and agreed on at the outset of the learning activity, and the learning experiences are planned so that they directly relate to the outcomes.

HOW SHOULD STANDARDS BE SET?

The first question to ask about standard setting in assessment is whether experience, learning, or a combination of both is being assessed. In a traditional setting, credit is awarded for both. A student must be in the classroom a certain number of hours - experience measured by an attendance record - and must also demonstrate learning by means such as class participation, writing term papers, and performance on tests. In sponsored experiential learning credit is awarded for experience only (such as working in an approved setting) or for experience plus a demonstration of learning (such as meeting a specific job standard, keeping a diary, or participating in a seminar). The first rule in nonsponsored experiential learning, as represented in CAEL handbooks such as Forrest (1977) and Knapp (1977), is to award credit only on the basis of demonstrated learning and not on the basis of experience alone.

A number of other questions may be subsumed under the more general question: Is this application for credit through experiential learning eligible for further processing? They include: Is the learning college level? Is the learning current enough? Would the credit, if granted, duplicate other credit the student has already earned? Would the credit, if granted, fit into the student's degree program; that is, can the student use credits in this subject area toward a degree? Does the learning represent more credits than a student is allowed to earn through assessment of experiential learning?

These questions, although important to a college when it assesses experiential learning, are <u>not</u> central to standard setting. They are separate from the principal question: Is the learning worthy of credit at this institution, and if so, how much?

For, if a student is to receive credit for experiential learning, it must be compared to some standard to determine its adequacy. Not

every instance of demonstrated learning is worthy of credit. How standards should be chosen is the focus of the rest of this report. It provides a framework for understanding the setting of standards, reports the results of the authors' literature search, discusses principles of good practice in standard setting, and provides guidelines for determining whether standards are adequate.

Limitations of the Credit Hour

The United States Bureau of Standards keeps a bar one meter long under constant temperature and humidity in a fireproof vault. In theory, at least, bars of other lengths may be compared to it. The Bureau also has a kilogram weight comparable for comparison with other weights. It does not have a semester-hour.

The heart of the problem for those in higher education who want to equate an amount of learning with an amount of educational credit is that although the semester-hour is thought of as the unit of educational credit, there is no standard semester-hour.

Educators behave as if there were a standard semester-hour. In a traditional college setting credit hours are mainly used to define degree requirements. Credit hours are also used to determine how many courses a student may take at a time, how much tuition the student will pay, how many courses a faculty member must teach, how much money each department in the college should receive, etc. Thus the credit hour, standard or not, performs many administrative and economic functions.

One of these functions, defining degree requirements, provides a good example to look at in more detail. Suppose the degree requirements at a particular college for a Bachelor of Arts degree are 30 semester hours in each of four broad categories: humanities, social sciences, natural sciences, and free electives. In addition, the college may have lofty goals, such as:

- To provide the citizenry with skills demanded by the continued change of civilization and the development of a free society
- To foster critical understanding and creative effort
- To develop the student's philosophy of life and moral and spiritual values and to deepen his or her sense of responsibility toward the general welfare
- To develop self-identity and self-confidence and a sense of commitment to values, beliefs, and goals that are personally meaningful

In translating its goals into semester-hour requirements in various fields, the college is assuming that (1) different students receiving three semester hours of credit in English literature from different instructors have made the same amount of progress toward attaining the goals of the college, and (2) a student receiving three semester hours of credit in English literature has made the same amount of progress toward attaining the goals of the college as a student receiving three semester hours of credit in dance, French, or philosophy.

These assumptions are questionable. In general, instructors teaching the "same" English literature course will have their own course objectives, material to be covered, and examinations. Furthermore, they will have their own schemes for weighing diverse information (examination grades, term papers, class participation, attendance, student growth from beginning to end of semester, etc.) to determine who should receive credit. When different courses in English literature are considered, as well as courses in other subject areas, the meaning of a credit hour becomes even murkier. In the traditional setting the credit hour not only has many functions, but it performs them imperfectly.

The aim of assessing experiential learning is to award academic credit for learning that took place outside the classroom, with the credit awarded being interchangeable with credit awarded for traditional classroom study. However, the credit hour as a unit of educational credit has major limitations. The assessment of experiential learning, both sponsored and nonsponsored, often highlights these limitations and

makes educators more aware of the questionable assumptions that underlie the use of the credit hour. As one survey respondent from an institution that does not assess experiential learning wrote: "Although we do not give credit for learning outside the classroom, your survey includes interesting questions for classroom learning."

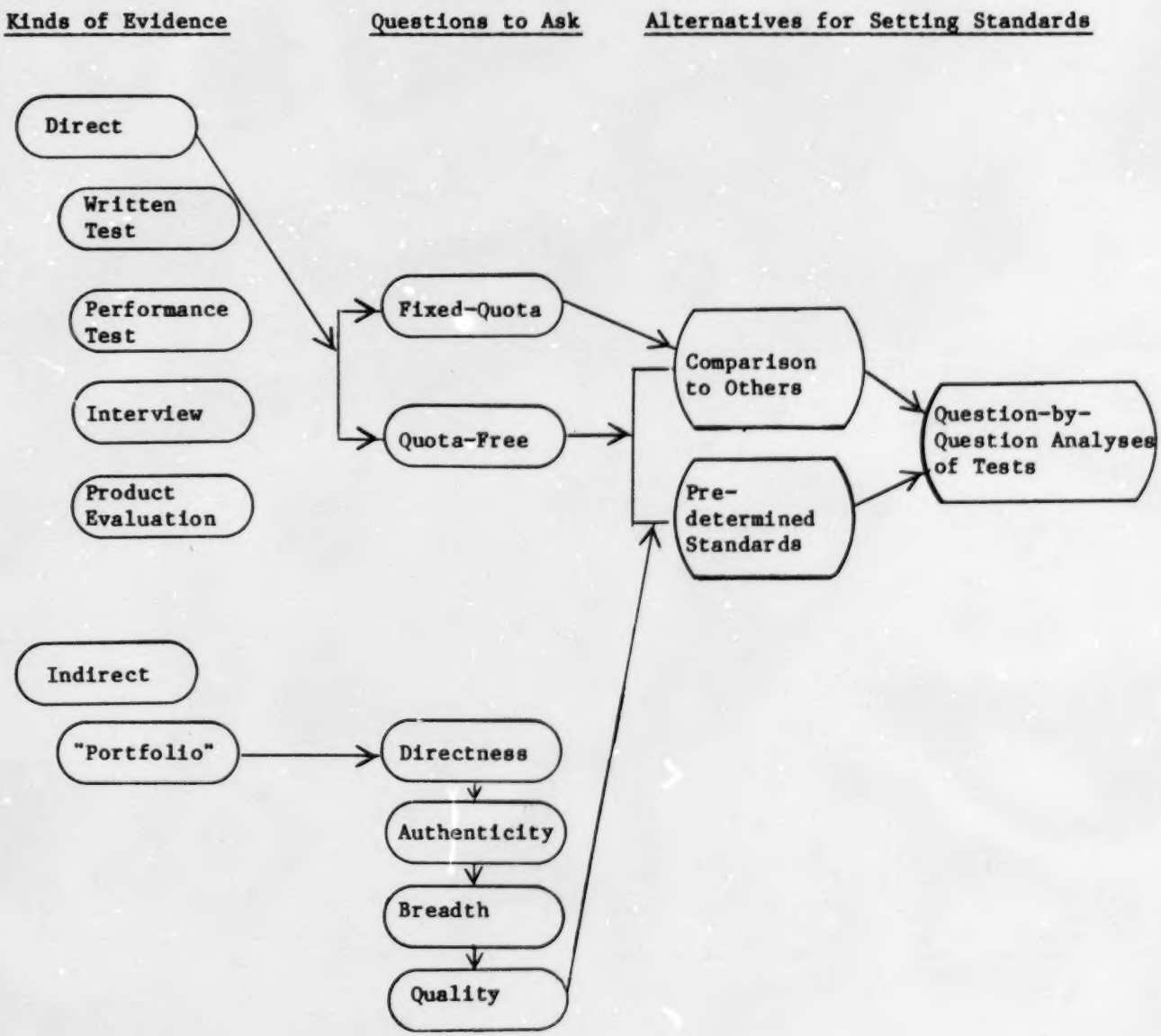
Evidence of Learning

Another complication in setting standards is that students may offer a wide variety of kinds of evidence to support learning claims. A standard may make sense for one kind of evidence and not be meaningful for others.

The four basic categories of direct evidence of experiential learning include: (1) a written test, such as a comprehensive end-of-semester examination; (2) a performance test or observation, in which the student demonstrates knowledge or skills by doing, as in playing the piano or directing a small-group discussion; (3) an interview, a directed conversation through which the assessor determines the extent of the student's knowledge; and (4) a product evaluation, in which the assessor evaluates the student's previous work (e.g., drawings, articles, photographs). Indirect evidence of experiential learning includes portfolios and professional certification. These categories of evidence are shown in Figure 2.

In setting standards, the first category of direct evidence, the written examination, is qualitatively different from the other three categories because comparable information is obtained from each student. Each student answers the same set of questions, and the resulting score can be compared to the score of other students or to a predetermined level.

Figure 2. Ways of Equating Experiential Learning to Academic Credit



This comparability is theoretically possible with each of the other three categories of direct evidence. For example, comparability might be achieved through a performance test in which each pianist plays the same pieces; through an interview in which each student is asked the same questions; or through a product evaluation in which each student sketches the same model, writes an article on the same topic, or photographs the same objects. But rarely, if ever, does a college require this type of comparability.

Because the written examination provides directly comparable student scores in an objective, inexpensive manner, it has received the most attention from educational psychologists and psychometricians who work in areas other than the assessment of experiential learning. Therefore, a literature search was conducted to determine whether the literature on setting standards for written examinations contains material pertinent to assessing experiential learning by examination.

The data base for the literature search included the ERIC Clearinghouse Dissertation Abstracts, and Psychological Abstracts. Descriptors related to the topic - such as academic standards, experiential learning, and standard setting - were used in the search. The search yielded several papers that addressed problems of standards in education, minimum competency testing, academic standards, and the setting of cutting scores for standardized tests. Among the titles resulting from the search were: Report of the Commission on Academic Standards, Proceedings of National Conference on Minimum Competency Testing, and Setting Standards for Basic Skills Reading Assessment.

In general, the papers focused either on the general issue of lowered quality of standards in education or on approaches to setting minimum performance standards for standardized tests. Thus, the problems and issues discussed in most of the papers related to this study only tangentially. Those that addressed the topic of this study are listed in the references.

Fixed Quota and Quota-Free Decisions

The literature suggests that the first question to be considered is why a cutting score should be set. The goal may be to pass a certain number of test applicants to fill a predetermined number of places or to pass all applicants who are qualified. Shepard (1976) refers to this as the distinction between fixed-quota and quota-free decisions.

Here is an example of a fixed-quota decision: There are places for 120 new students, so a cutting score is set that passes 120 test candidates. Possible complications with such a fixed-quota decision include:

- Based on past experience, only 60 percent of the test candidates that pass will enroll at the school; therefore, a cutting score is set that will pass 200 candidates (rather than 120).
- As the population of applicants shifts from year to year, the cutting score shifts and standards drift.
- As the number of available places changes from year to year, the cutting score shifts and standards drift.

In another example of a fixed-quota decision, marketplace considerations lead a professional association to determine that 250 more people should be certified this year. The association sets a cutting score that passes the highest scoring 250 candidates. To the extent that the test actually measures it, the professional competence of the people certified each year will depend on the professional association's perception of marketplace considerations.

Here is an example of a quota-free decision: A driver's license is to be issued to each person who can demonstrate that he or she can safely operate an automobile. Test construction and automotive safety experts design a test and choose a cutting score. Possible complications with such a quota-free decision include:

- If the actual accident rate exceeds a tolerable level and testing standards are thought to be at fault (in contrast to, for example, poor automotive design), then the cutting score will be raised to reduce the accident rate and, in addition, the nature of the test may be altered.

- If the driving test is a barrier to too many people receiving a license, so that they cannot take part in the complex social and economic activities of the society, the cutting score will be lowered to eliminate the barrier and the nature of the test may be altered.

Here is another example of a quota-free decision: A basic tenet of CAEL is that adults should receive credit for college-level knowledge that they can demonstrate. Accordingly, a college sets a cutting score on a CLEP examination based on faculty judgment after comparing the examination to courses taught at the college. The college awards credit to those whose score equals or exceeds the cutting score. Possible complications with such a quota-free decision include:

- The college finds that students who receive credit for an introductory course through CLEP do not have sufficient background for a more advanced course for which the introductory course is a prerequisite. The college raises the cutting score.

- The college finds that students who receive credit for an introductory course through CLEP are superbly qualified for a more advanced course for which the introductory course is a prerequisite. So many students, however, are earning credits through CLEP, that a number of tenured faculty members have too few students to teach. The college raises the cutting score.

- The college finds that it is not getting its share of the returning-adult-student market. Since nearby colleges have lower cutting scores for CLEP examinations, the college lowers its cutting scores.

These examples illustrate how social policy and economic considerations affect the setting of cutting scores, in both nonacademic and academic situations and how what appears to be a quota-free situation may implicitly be a fixed-quota situation.

Setting Cut-Off Scores for Examinations

When awarding credit for experiential learning through examination is regarded as a quota-free situation, a choice must still be made about how to set the cut-off score.

Norm-referenced measurement. Using an examination to award credit by comparing a student's score to the scores of others is a form of norm-referenced measurement. The cutting-score problem (and the standards problem) then becomes: What proportion of scores should the given student's score exceed for the student to be awarded credit?

CLEP offers an interesting example of the resolution of this problem. CLEP subject examinations correspond to specific college courses widely taught across the country; students may take these examinations without taking the corresponding courses and request credit from their respective colleges on the basis of their scores. There are three major approaches colleges have taken in determining acceptable or passing scores for CLEP Subject Examinations at their institutions:

1. A reference group of students has completed both relevant courses and the corresponding CLEP examinations, and the mean examination scores of students receiving an A course grade, a B course grade, etc., have been computed. The Commission on Educational Credit and Credentials of the American Council on Education has recommended that colleges award credit at the mean C level for each examination. A large group of colleges has accepted this recommendation.

2. Another group of colleges has chosen to award credit to students whose scores exceed 50 percent of the scores in the reference group mentioned above.

3. Some colleges have chosen to set their own passing scores for each examination.

The first two of these approaches provide a uniformity of standards in one area (credit by examination) among institutions that otherwise may

be quite diverse in their academic standards for admission and in their degree requirements.

Criterion-referenced measurement. An alternate approach is to use an examination to award credit by comparing a student's score to a predetermined standard, a form of criterion-referenced measurement. The cutting score problem (and the standards problem) then becomes: How should the standard be determined?

One approach is for several faculty members who teach the "same" course to develop an examination for that course and then discuss with each other what minimal passing score will demonstrate mastery of the course content. However, a danger in this approach is that often faculty members will base their judgments on a "conventional" passing score ("I think 65 percent and above should be considered passing") without considering in detail the actual content of the examination. This way of setting a passing score is particularly inappropriate when the test does not cover the specific course content taught by any of the faculty members, but instead represents a consensus of an idealized course that no one teaches. For example, during the development of an art history examination one faculty member will keep in mind the specific works of art he or she usually discusses in class, and another faculty member will do the same thing, but have in mind different works of art. When these faculty members agree on the content and the cut-off score for an examination for experientially trained adults who have not had either of their courses, a 65 percent cut-off score is likely to be inappropriately high or low, depending on the fit between what the faculty members choose for content and the students' experiences.

There are other methods for setting cut-off scores that force faculty members to directly confront the actual content of the examination on a question-by-question basis, for example, Nedelsky (1954) and Angoff (1971). Although such methods provide a veneer of psychometric sophistication, there remains the problem of the fit between test content and student knowledge.

Setting Standards for Other Types of Assessment

Because evidence for experiential learning is most often not comparable from student to student, other approaches for setting standards in the evaluation of experiential learning must be used. Students requesting credit in journalism, for example, may present portfolios of articles they wrote that cover different news stories. The precision of the psychometric approaches for setting cut-off scores for examinations that provide comparable evidence of learning is not possible here. There are basically two choices. The first is to impose comparability on the criteria for reviewing the evidence of learning that students present. The second is to judge the adequacy of the student's evidence of learning against well-defined dimensions.

Imposing comparability. While students-as-journalists may have covered different stories, there is probably a set of criteria that can be applied to the rather diverse articles they have produced. Suppose, for example, a group of journalism professors agreed that students passing Journalism 104 should be able to write articles that were satisfactory in five respects: accurate, major points emphasized, interestingly written, grammatically written, and stylistically appropriate. The standards for judging diverse student products would then be how satisfactory each was on these five criteria.

How might the adequacy of the standards themselves be judged? Here are three major approaches:

1. Would a larger group of journalism professors accept these five criteria?

2. How well would journalism professors, using these five criteria, agree among themselves in independently rating the same student articles?

3. How well would the students recommended for credit in Journalism 104 (rated satisfactory on all five criteria) later perform in Journalism 105 (for which the prerequisite is Journalism 104)?

These three ways of judging the adequacy of the standards may, of course, be generalized to assessments of experiential learning in other subject areas:

1. Consensus among experts as to criteria
2. Agreement among experts in independent judgments
3. Future performance of students who are awarded or denied credit

In addition, these three ways of judging the adequacy of standards are roughly analogous to content validity, inter-rater reliability, and predictive validity, in more conventional psychometric terms.

Well-defined dimensions. Assessments of experiential learning based on interviews, product evaluation, and other portfolio evidence and information that is not comparable from student to student are problematic in the setting of standards. One solution is used at Thomas A. Edison State College, which requires its faculty assessors to consider portfolio evidence of student learning along four independent dimensions:

1. Directness. A copy of an article the student has written is direct evidence of the student's writing ability. The fact that the student was employed as a technical writer is indirect evidence of the student's writing ability. In general, direct evidence is preferable to indirect evidence.

2. Authenticity. Did the student write the article himself or herself? Did the student actually work as a technical writer?

3. Breadth. Is a single article a student has written a sufficient basis to recommend awarding credit? What about three articles on the same topic? Three articles, each on a different topic? Is a student's employment as a technical writer for one month a sufficient basis to recommend awarding credit? For six months? For one employer? For several employers?

4. Quality. How good are the articles in the portfolio? How well did the student work as a technical writer?

On each dimension, there is, of course, a large judgmental factor. The primary mechanism for maintaining adequate standards would be, once again, to see how well faculty judgments, independently made, agree with each other.

Evaluating the Adequacy of Standards

Clearly, standard setting is a highly judgmental process, with faculty or institutionally appointed experts at the center of the process. Furthermore, consensus of experts is the primary mechanism for maintaining adequate standards.

Guidelines are required to develop and maintain standards. Fremer (1976) has suggested the following criteria for judging the adequacy of standards:

1. Comparability and realism. Standards should be developed so that there is comparability of requirements for experiential learning and traditional classroom learning. Standards must be set at high but realistic levels.

2. Definitions of adequate learning. Standards should be accompanied by clear definitions of what constitutes adequate learning.

3. Consistency and reliability. Standards should be applied consistently within programs, across programs, and over time.

4. Acceptability and Transferability. Standards should be backed fully by the college to increase the likelihood that the resulting credit will be acceptable to other institutions.

5. Adequacy of preparation and feedback. Standards should be administered with an adequate student advisory and guidance system so that standards are not accompanied by high failure rates.

6. Student satisfaction. Standards should be administered so that the students involved feel they have been well served.

7. Management standards. Standards should be developed using good management standards or procedures.

8. Ethics and Responsibility. Standards should be developed by a process that not only gives major attention to the needs of students but also recognizes the institution's responsibility to societal needs.

Sound standards are central to the credibility and acceptance of credit for experiential learning. When carefully developed, appropriately applied, and closely monitored, standards assure the student, the school, and the public that credit awarded is credit awarded for college-level learning, and that the amount of credit awarded is appropriate and fair.

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